

<b>Exploring Aeronautics</b>			
<b>2002 Mathematics</b>			
<b>Academic Standards</b>			
<b>Pennsylvania Mathematics</b>			
<b>Grade 5</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Fundamentals of Aeronautics (145-176)	PA	MA.5.2.3.5.A	Select and use appropriate instruments and units for measuring quantities (e.g., perimeter, volume, area, weight, time, temperature).
Fundamentals of Aeronautics (145-176)	PA	MA.5.2.3.5.B	Select and use standard tools to measure the size of figures with specified accuracy, including length, width, perimeter and area.
Fundamentals of Aeronautics (145-176)	PA	MA.5.2.5.5.C	Show ideas in a variety of ways, including words, numbers, symbols, pictures, charts, graphs, tables, diagrams and models.
Fundamentals of Aeronautics (145-176)	PA	MA.5.2.6.5.A	Organize and display data using pictures, tallies, tables, charts, bar graphs and circle graphs.
Fundamentals of Aeronautics (145-176)	PA	MA.5.2.8.5.F	Describe a realistic situation using information given in equations, inequalities, tables or graphs.
Wings(177-208)	PA	MA.5.2.3.5.A	Select and use appropriate instruments and units for measuring quantities (e.g., perimeter, volume, area, weight, time, temperature).
Wings(177-208)	PA	MA.5.2.3.5.B	Select and use standard tools to measure the size of figures with specified accuracy, including length, width, perimeter and area.
Tools of Aeronautics(257-326)	PA	MA.5.2.2.5.F	Demonstrate skills for using fraction calculators to verify conjectures, confirm computations and explore complex problem-solving situations.
The Tools of Aeronautics	PA	MA.5.2.9.5.E	Construct two- and three-dimensional shapes and figures using manipulatives, geoboards and computer software.
Science of Flight	PA	MA.5.2.2.5.F	Demonstrate skills for using fraction calculators to verify conjectures, confirm computations and explore complex problem-solving situations.
Science of Flight	PA	MA.5.2.3.5.A	Select and use appropriate instruments and units for measuring quantities (e.g., perimeter, volume, area, weight, time, temperature).
Integrating with Aeronautics	PA	MA.5.2.2.5.F	Demonstrate skills for using fraction calculators to verify conjectures, confirm computations and explore complex problem-solving situations.
Integrating with Aeronautics	PA	MA.5.2.3.5.A	Select and use appropriate instruments and units for measuring quantities (e.g., perimeter, volume, area, weight, time, temperature).
Integrating with Aeronautics	PA	MA.5.2.3.5.B	Select and use standard tools to measure the size of figures with specified accuracy, including length, width, perimeter and area.
Integrating with Aeronautics	PA	MA.5.2.4.5.A	Compare quantities and magnitudes of numbers.
Integrating with Aeronautics	PA	MA.5.2.4.5.C	Draw inductive and deductive conclusions within mathematical contexts.

Integrating with Aeronautics	PA	MA.5.2.5.5.B	Use appropriate mathematical terms, vocabulary, language symbols and graphs to explain clearly and logically solutions to problems.
Integrating with Aeronautics	PA	MA.5.2.5.5.C	Show ideas in a variety of ways, including words, numbers, symbols, pictures, charts, graphs, tables, diagrams and models.
Scientific Method(124-144)	PA	MA.5.2.4.5.C	Draw inductive and deductive conclusions within mathematical contexts.
Scientific Method(124-144)	PA	MA.5.2.6.5.A	Organize and display data using pictures, tallies, tables, charts, bar graphs and circle graphs.
Scientific Method(124-144)	PA	MA.5.2.6.5.E	Construct and defend simple conclusions based on data.
<b>Exploring Aeronautics</b>			
<b>2002 Mathematics</b>			
<b>Academic Standards</b>			
<b>Pennsylvania Mathematics</b>			
<b>Grade 8</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Fundamentals of Aeronautics (145-176)	PA	MA.8.2.5.8.B	Verify and interpret results using precise mathematical language, notation and representations, including numerical tables and equations, simple algebraic equations and formulas, charts, graphs and diagrams.
Fundamentals of Aeronautics (145-176)	PA	MA.8.2.6.8.F	Use scientific and graphing calculators and computer spreadsheets to organize and analyze data.
Fundamentals of Aeronautics (145-176)	PA	MA.8.2.7.8.B	Present the results of an experiment using visual representations (e.g., tables, charts, graphs).
Fundamentals of Aeronautics (145-176)	PA	MA.8.2.8.8.G	Represent relationships with tables or graphs in the coordinate plane and verbal or symbolic rules.
Wings(177-208)	PA	MA.8.2.3.8.A	Develop formulas and procedures for determining measurements (e.g., area, volume, distance).
Airplane Control(209-256)	PA	MA.8.2.9.8.B	Draw, label, measure and list the properties of complementary, supplementary and vertical angles.
Airplane Control(209-256)	PA	MA.8.2.9.8.E	Construct parallel lines, draw a transversal and measure and compare angles formed (e.g., alternate interior and exterior angles).
Tools of Aeronautics(257-326)	PA	MA.8.2.8.8.F	Solve and graph equations and inequalities using scientific and graphing calculators and computer spreadsheets.
The Tools of Aeronautics	PA	MA.8.2.3.8.G	Create and use scale models.
The Tools of Aeronautics	PA	MA.8.2.8.8.F	Solve and graph equations and inequalities using scientific and graphing calculators and computer spreadsheets.

The Resource Center	PA	MA.8.2.1.8.C	Distinguish between and order rational and irrational numbers.
The Resource Center	PA	MA.8.2.1.8.F	Use the number line model to demonstrate integers and their applications.
The Resource Center	PA	MA.8.2.8.8.A	Apply simple algebraic patterns to basic number theory and to spatial relations.
Science of Flight	PA	MA.8.2.5.8.C	Justify strategies and defend approaches used and conclusions reached.
Science of Flight	PA	MA.8.2.7.8.D	Compare and contrast results from observations and mathematical models.
Science of Flight	PA	MA.8.2.8.8.F	Solve and graph equations and inequalities using scientific and graphing calculators and computer spreadsheets.
Integrating with Aeronautics	PA	MA.8.2.2.8.F	Identify the difference between exact value and approximation and determine which is appropriate for a given situation.
Integrating with Aeronautics	PA	MA.8.2.8.8.G	Represent relationships with tables or graphs in the coordinate plane and verbal or symbolic rules.
Scientific Method(124-144)	PA	MA.8.2.4.8.B	Combine numeric relationships to arrive at a conclusion.
Scientific Method(124-144)	PA	MA.8.2.5.8.C	Justify strategies and defend approaches used and conclusions reached.
Scientific Method(124-144)	PA	MA.8.2.6.8.F	Use scientific and graphing calculators and computer spreadsheets to organize and analyze data.